Algebra Review

NAME_____ ID#_____ PER_____ GRADE LEVEL (circle one): 9 10 11 12

CURRENT MATH COURSE _____ CURRENT MATH TEACHER _____

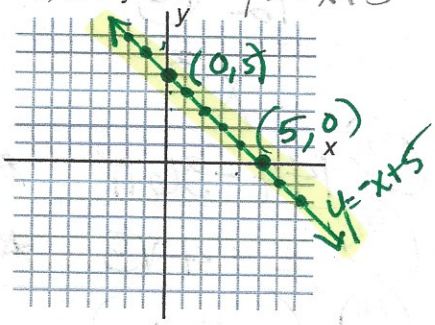
MATH HISTORY – Fill in information from last year's Math Course

2017/2018 MATH COURSE Choose one of the following:	FINAL LETTER GRADE RECEIVED	MATH TEACHER (who taught this course)
○ Geometry Honors		
○ Geometry Hn/Gifted		
○ Algebra 2 Honors		
○ Algebra 2 Hn./Gifted		
○ Trig/Analyt		

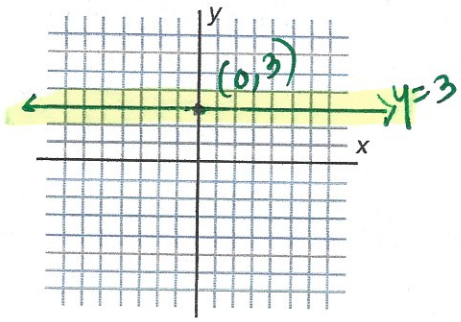
SHOW ALL WORK NEXT TO THE PROBLEM:

I. GRAPH THE FOLLOWING LINEAR EQUATIONS. Use a ruler and plot and label three points.

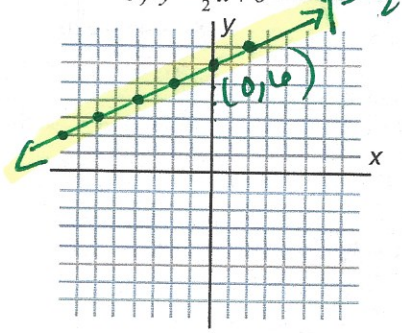
1) $x + y = 5$ $y = -x + 5$



2) $y = 3$



3) $y = \frac{1}{2}x + 6$ $y = \frac{1}{2}x + 6$



II. SIMPLIFY:

4) $(3x^2y^3)(5xy^2)$

$15x^3y^5$

5) $\frac{10x^2y}{2xy^2}$ $= \frac{5x}{y}$

6) $7x - (8 - 3x)$

$7x - 8 + 3x$

$10x - 8$

7) $(2x - 3y)(5x + 5y)$

$10x^2 - 15xy + 10xy - 15y^2$

$10x^2 - 5xy - 15y^2$

III. SOLVE THE FOLLOWING EQUATIONS:

8) $6x + 4(3 - x) = 30$

$6x + 12 - 4x = 30$

$2x + 12 = 30$

$-12 \quad -12$

$2x = 18$

$x = 9$

9) $13 - (2c + 2) = 2(c + 2) + 3c$

$13 - 2c - 2 = 2c + 4 + 3c$

$-2c + 11 = 5c + 4$

$-4 \quad -4 \quad +2c \quad +2c$

$7c = 7$

$c = 1$

10) $\frac{1}{4}(8y + 4) - 17 = (-\frac{1}{2})(4y - 8)$

$2y + 1 - 17 = -2y + 4$

$+2y \quad -16 = -2y + 4 \quad +16 \quad +2y$

$4y = 20$

$y = 5$

IV. SOLVE THE FOLLOWING INEQUALITY:

11) $-2x + 13 < 21$

$-13 \quad -13$

$-2x < 8$

$x > -4$

4)	$15x^3y^5$
5)	$\frac{5x}{y}$
6)	$10x - 8$
7)	$10x^2 - 5xy - 15y^2$
8) $x =$	9
9) $c =$	1
10) $y =$	5
11)	$x > -4$

Factor.

12) x^2-25 $(x+5)(x-5)$

13) $6y^2-4xy$ $2y(3y-2x)$

14) $x^2+9x+20$ $(x+5)(x+4)$

V. Solve & Eq.

15) $x^2-6x+8=0$

$(x-4)(x-2)=0$

$x-4=0$ $x-2=0$

$x=4$ $x=2$

16) $4x^2-6x=0$

$2x(2x-3)=0$

$2x=0$ $2x-3=0$

$x=0$ $2x=3$

$x=\frac{3}{2}$

VII. SIMPLIFY. Leave Ans. Simp. Radical form.

17) $\sqrt{98}$

$2\cdot 49$

$7\sqrt{2}$

18) $\sqrt{45}-\sqrt{20}$

$9\cdot 5$ $4\cdot 5$

$3\sqrt{5}-2\sqrt{5}$

$\sqrt{5}$

19) $(\sqrt{3x^2})(\sqrt{9x^3})$

$x\sqrt{3}$ $3x\sqrt{x}$

$3x^2\sqrt{3x}$

20) $9\sqrt{y}+3\sqrt{y}$

$12\sqrt{y}$

21) $\sqrt{x^6}=x^3$

VIII. GEOMETRY:

22) Find the area of the shaded region: (Circle with radius = 6 cm. inscribed in a square). Leave the answer in terms of π.

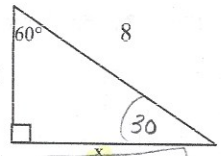
$\square - \odot$

$s^2 - \pi r^2$

12cm, 6cm

$144-36\pi$

23) Solve for x:



$x=4\sqrt{3}$

24) Solve the following system of linear equations:

$\begin{cases} x+y=2 \\ -3x+4y=36 \end{cases}$

$8x+3y=6$

$7y=42$

$y=6$

$x+6=2$

$x=-4$

$(-4,6)$

25) Find an equation of the line containing the points A(5,3) and B (2,- 4). Write your answer in slope intercept form (y = mx + b).

$m=\frac{3+4}{5-2}=\frac{7}{3}$, $(5,3)$

$y-3=\frac{7}{3}(x-5)$

$y-3=\frac{7}{3}x-\frac{35}{3}+3$

$\frac{-35+9}{3}=\frac{-26}{3}$

$y=\frac{7}{3}x-\frac{26}{3}$

12) $(x+5)(x-5)$

13) $2y(3y-2x)$

14) $(x+5)(x+4)$

15) $x=4, x=2$

16) $x=0, x=\frac{3}{2}$ or 1.5

17) $7\sqrt{2}$

18) $\sqrt{5}$

19) $3x^2\sqrt{3x}$

20) $12\sqrt{y}$

21) x^3

22) $144-36\pi$ ★

23) $x=4\sqrt{3}$ ★

24) $(-4,6)$

25) $y=\frac{7}{3}x-\frac{26}{3}$